

REMARKS:Status

This response does not make any changes to the claims. Claims 1 to 8 and 24 to 45 are pending. Claims 1, 26 and 36 are the independent claims. Reconsideration and further examination are respectfully requested.

Claim Rejections

Claims 1 to 3, 5, 8, 24 to 28, 30, 33 to 38, 40, and 43 to 45 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,484,186 (Rungta) in view of U.S. Patent No. 6,473,775 (Kuster). Claims 4, 6 to 7, 29, 31, 32, 39, 41 and 42 were rejected under § 103(a) over Rungta in view of Kuster and further in view of U.S. Patent No. 5,819,292 (Hitz). Applicants respectfully traverse these rejections.

Claims 1 to 8, 24 and 25: Claim 1 is reproduced below:

1. A method of capturing the contents of files and directories in a file system, said file system comprising a set of storage blocks in a mass storage system including steps of
 recording an active map in said file system of said storage blocks used by said active file system;
 recording a consistency point in said file system including a consistent version of said file system at a previous time, said consistency point including a copy of said active map at said previous time; and
 refraining from writing data to storage blocks in response to said active map and at least one said copy of said active map included in said consistency point.

The applied art is not seen by Applicants to disclose or to suggest the foregoing features of claim 1.

First, the Office Action indicated that Rungta at col. 3, lines 18 to 33, teaches “recording a consistency point in said file system including a consistent version of said file system at a previous time, said consistency point including a copy of said active map at said previous time.” The cited portion of Rungta does discuss a snapshot. However, Rungta’s snapshots are of “files [that] are opened for writing.” Rungta, col. 2, lines 30 and 31. One of these snapshots “is created when a file is opened for writing.” Rungta, col. 2, lines 66 and 67. Applicants respectfully submit that such snapshots are entirely different from a consistency point that includes “a consistent version of [a] file system.” In particular, a snapshot of a file is not understood by Applicants to be a consistency point including a version of a file system.

Second, the Office Action indicated that Rungta at col. 4, lines 1 to 15 and 51 to 64, teaches “at least one said copy of said active map included in said consistency point.” This portion of Rungta does discuss a bitmap used in conjunction with its snapshot. However, this bitmap indicates whether blocks of a consistent version of a file have changed from a last consistent version of the file. See Rungta, col. 3, lines 28 to 31. Applicants respectfully submit that this bitmap for a file is not at all equivalent to the claimed active map of storage blocks used by an active file system.

Third, the Office Action indicated that Kuster at col. 8, lines 36 to 47 and 58 to 64, teaches “refraining from writing data to storage blocks in response to said active map.” However, this is not the entirety of what is recited by claim 1. Rather, claim 1 recites “refraining

from writing data to storage blocks in response to said active map *and at least one said copy of said active map included in said consistency point*" (emphasis added).

In this regard, the cited portion of Kuster does disclose that a snapshot driver "may be configured (e.g., by checking the snapshot bitmap) to avoid writing" to locations during copy-on-write operations. However, this "snapshot bitmap" is not seen by Applicants to be a copy of an active map included in a consistency point as recited by claim 1. Rather, Kuster's snapshot bitmap 270 appears to Applicants to be separately maintained by Kuster's snapshot driver 235. See Kuster, col. 5, lines 39 and 40. See also Figure 2 of Kuster, which shows snapshot bitmap 270 as separate from Kuster's base volumes that store Kuster's snapshots, and Figures 3 and 4, which show snapshot volume 311 without snapshot bitmap 270.

In view of the foregoing, Applicants respectfully submit that claim 1 is not obvious in view of Rungta and Kuster. Accordingly, reconsideration and withdrawal are respectfully requested of the § 103(a) rejection of claim 1 and its dependent claims 2 to 8, 24 and 25, as is allowance of those claims.

Claims 26 to 45: Claims 26 to 35 recite file systems that substantially implement the methods of claims 1 to 8, 24 and 25. Claims 36 to 45 recite memories that store instructions to implement those methods. Accordingly, withdrawal of the rejection and allowance of those claims are respectfully requested at least for the reasons set forth above.

Closing

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney can be reached at (614) 486-3585. All correspondence should continue to be directed to the address indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Dane C. Butzer". The signature is fluid and cursive, with the first name "Dane" being the most prominent.

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